

## Claims

- [c1] A method for acquiring digital x-ray images, said method comprising:
- identifying scan parameters designating slices of interest from a patient anatomy;
  - scanning the patient in a first direction utilizing a servo-tomo function based on said scan parameters to obtain a first x-ray image; and
  - scanning the patient in a second direction utilizing the servo-tomo function based on said scan parameters to obtain a second x-ray image.
- [c2] The method of claim 1, wherein the scan parameters include at least one of:
- a focal plane of interest;
  - a sweep angle;
  - a focal plane thickness; and
  - an exposure time.
- [c3] The method of claim 1, further comprising calculating first and second preparation positions located on opposite ends of a scan range over which first and second scans of the patient are acquired.
- [c4] The method of claim 1, further comprising:
- initiating said scanning in said first direction beginning at a preparation position located at one end of a scan range; and
  - initiating said scanning in said second direction beginning at a preparation position located at an opposite end of said scan range.
- [c5] The method of claim 1, further comprising calculating detector and x-ray tube travel distances and sweep velocities based on said scan parameters.
- [c6] The method of claim 1, further comprising:
- after scanning in said first direction, displaying said first x-ray image; and
  - after said scanning in said second direction, displaying said second x-ray image, wherein said first and second images are co-displayed in a multi-image format.
- [c7] The method of claim 1, further comprising:

saving the image in an image storage device; and  
displaying the image on a multi-image format display.

[c8] The method of claim 1, further comprising loading precalculated stored x-ray tube angulation and detector and x-ray tube velocity and travel distances before each acquisition.

[c9] The method of claim 1, further comprising modifying said scan parameters before scanning a next x-ray image.

[c10] 10.A method for displaying digital x-ray images in a multi-image format, said method comprising:  
identifying scan parameters designating multiple slices of interest from a patient anatomy;  
acquiring a series of images corresponding to said multiple slices of interest;  
displaying images simultaneously as each of said series of images is acquired;  
and  
after acquisition and simultaneous display of each image in said series of images, halting said acquiring step until reinitiated by an operator.

[c11] The method of claim 10, wherein said identifying step designates all scan parameters needed for acquisition of said series of images before beginning said acquiring step.

[c12] The method of claim 10, further comprising after each acquisition, prompting the operator to change previously identified scan parameters designating a slice of interest not yet acquired.

[c13] The method of claim 10, further comprising redefining previously identified scan parameters designating a slice of interest not yet acquired after each acquisition.

[c14] The method of claim 10, wherein the scan parameters include at least one of:  
a focal plane of interest;  
a sweep angle;

a focal plane thickness; and  
an exposure time.

- [c15] The method of claim 10, wherein the acquiring step further comprises:  
scanning a patient in a first direction; and  
scanning said patient in a direction opposite to said first direction.
- [c16] The method of claim 10, wherein the acquiring step further comprises  
calculating first and second preparation positions located on opposite ends of a  
scan range over which said series of images of the patient are carried out.
- [c17] The method of claim 10, further comprising loading precalculated stored  
detector and x-ray tube velocity and travel distances before each acquisition.
- [c18] The method of claim 10, further comprising loading a preparation position after  
each said acquisition, wherein said preparation position is located at the  
opposite end of a scan range as a location of a previous preparation position.
- [c19] The method of claim 10, wherein said images are acquired utilizing a servo-  
tomo function.
- [c20] The method of claim 10, further comprising calculating detector and x-ray tube  
travel distances and sweep velocities based on said scan parameters.
- [c21] The method of claim 10, further comprising calculating x-ray tube angulation  
based on said scan parameters and said x-ray tube travel distance.

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